Unit title	Unit 2: Anatomy and Physiology for Health and Social Care
Guided learning hours	120
Number of lessons	120
Duration of lessons	1 hour
Links to other units	
• Unit 3: Enquiries into Current Research in Health and Social Care • Unit 5: Principles of Safe Practice in Health and Social Care • Unit 6: Promoting Public Health	

Key to learning opportunities			
PSA	Pearson Set Assignment	**RS**	Revision session
GS	Guest speaker	**V**	Visit
IS	Independent study	**C**	Classroom activities directed by tutor

Lesson	Topic	Lesson type	Suggested activities	Resources
Learning aim A: Examine the structure and function of the human body and the role of homeostatic mechanisms				
1–4	Introduction **A1** How cells work	C and IS	**Introduction and overview of unit:** give learners an overview of the different learning aims and assessments that will be included in the unit. **Tutor-led:** learners will examine prepared slides of animal cells, leading to a discussion of the different types including similarities and differences. **Independent activity**: learners should research the structure and function of animal cells, to include the structure of membrane, nucleus, ribosomes, rough and smooth endoplasmic reticulum, and mitochondria and covering the function of membrane, nucleus, mitochondria and ribosomes. Ask each learner to produce an annotated diagram featuring the structure and function of the relevant organelles. **Presentation of findings:** split the organelles for which learners have researched the functions equally among pairs of learners. Get each pair to collate and present their findings on the relevant organelles to the rest of the class. **Tutor-led feedback:** use question and answer to ensure that any gaps in the presentation findings are covered for the whole group.	Microscopes, prepared slides of animal cells

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5–8	**A2** Characteristics of tissues	C	**Tutor-led activity:** discuss with the class how cells are organised into tissues and how different cells have different functions. **Group activity:** split the class into four groups. Give each group one of the tissue types (epithelia, connective, muscle, nervous). Each group should prepare a large, annotated poster showing the different types of tissue in their groups and their structures. **Tutor collation of research:** the tutor should discuss each poster, giving feedback that the learners will use to update their posters. Posters will then be displayed in the classroom so that learners can refer to them throughout the delivery of the unit.	
9–10	**A3** The location of body organs	C	**Tutor-led activity:** question and answer to identify the different organs in the human body. **Learner-led:** each learner should research and produce a diagram on A4 paper showing the position of each of the organs listed in the specification.	
11–12	**A4** Energy in the body	C	**Tutor-led activity:** elicit learners' knowledge of energy from GCSE science. Discuss what the body uses energy for. Explain how energy is released in the body by respiration. Give learners notes on aerobic and anaerobic respiration. **Independent activity:** learners research the role of respiration in anabolism, catabolism and basal	

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			metabolic rate. **Tutor discussion:** the tutor uses question and answer to check understanding and correct any misconceptions.	
13–16	**A5** Homeostatic mechanisms	C and IS	**Tutor-led activity:** discussion of homeostasis, including the definition, and the concept of negative feedback as a regulatory mechanism. **Paired activity:** each pair to research one of body temperature, blood glucose and fluid balance, then compare their findings with another pair doing the same subject. Learners should update their presentation if any gaps are found. **Paired activity:** each pair to give their presentation to a pair who did a different mechanism. Pairs move around the class until everyone has heard the presentation for all the mechanisms. **Independent activity:** learners use the information from the presentations, supplemented with their own research, to make notes on the homeostatic mechanisms. **Tutor-led:** plenary using question and answer to ensure any gaps/misunderstandings are addressed.	
Learning aim B Understand the structure, organisation and function of human body systems Learning aim C: Understand how disorders affect anatomical and physiological systems				
16–22	**B1** The cardiovascular	C and IS	**Tutor-led:** dissection of the heart and blood vessels, demonstrating the structure and position of the heart	Animal heart (available from

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	system **C1** Disorders of the cardiovascular system		chambers, valves and vessels. **Tutor-led:** give notes on the structure and function of the cardiovascular system referring to the structures seen in the dissection. **Independent activity:** produce an annotated diagram of the double circulatory system, labelling the major blood vessels and structures in the heart. **Tutor-led:** take pulse rate before and after light exercise (1 minute standing/walking in the classroom). Discuss and give notes on the regulation of the heart rate, including stroke volume and blood pressure. **Independent activity:** examine blood smear slides through a microscope. Identify red and white blood cells. Research the structure and function of blood and make notes. **Plenary:** tutor-led discussion of how the parts of the cardiovascular system work together to support homeostasis. **Paired activity:** research one of coronary heart disease (CHD), stroke, anaemia, hypertension. (Ensure coverage of each across the class.) Learners should present their research and answer questions from the class (and from the tutor to correct inaccuracies/misunderstandings). **Tutor-led:** use question and answer to make links	butchers and/or abattoirs) and dissecting equipment or model heart

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			between the disorders and the normal functioning of the body system.	
23–29	**B2** The structure and function of the respiratory system **C1** Disorders of the respiratory system	C and IS	**Tutor-led:** a discussion on the links between the cardiovascular and respiratory systems. **Tutor-led:** lung dissection demonstrating the structure of the lungs, trachea and bronchial tree. **Independent research:** produce an annotated diagram of the respiratory system, including the role of the ciliated epithelia and the site of gaseous exchange. **Tutor-led:** using model lungs or video, describe the action of the intercostal muscles and the diaphragm in ventilation. **Learner-led:** use the information from the previous two activities and independent research to write an illustrated report on how gaseous exchange works in the lungs.	Sheep lungs (available at butchers and/or abattoirs) and dissecting equipment or model lungs
30–36	**B3** The structure and function of the musculoskeletal system	C and IS	**Tutor-led:** an introduction to the musculoskeletal system. If available, a model skeleton can be used to demonstrate the points. Include a brief overview of the functions of cartilage, ligaments and bones, the axial and appendicular skeleton and the function of the skeletal system (support, protection, attachment for skeletal muscle, blood cell production and store of minerals). **Independent research:** produce a short report on	Model skeleton

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			the types of bones (i.e. long bones, short bones, flat bones, irregular bones and sesamoid bones) and the structure of the three types of joints. **Tutor-led:** make notes on how muscles are attached to the body and how the different muscle types produce different kinds of movement in the body. **Independent work:** answer the question: 'Explain how muscles and bones work together to cause the body to move.' Learners should swap answers with another learner and mark each other's, highlighting any inaccuracies and mistakes and listing any information missing from the answer. They should return the answer to the author who then updates their answer considering the feedback. **Independent work:** research and write a set of notes on muscular dystrophy, osteoarthritis and osteoporosis, showing how they affect the healthy functioning of the musculoskeletal system.	
37–42	**B4** The structure and function of the digestive system	C and IS	**Tutor-led:** give an overview of the digestive system, structure and function. **Paired activity:** on A3 paper, draw a digestive system and associated organs, leaving room for annotations. Add annotations to the diagram to cover digestion (i.e. ingestion, peristalsis, digestion, absorption into blood and lacteals, and egestion), the functions of the pancreas and salivary glands, the role	Liver cut into small pieces and hydrogen peroxide

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			of enzymes and the major products of digestion. **Tutor-led:** give learners notes on the function of the liver, the storage of excess fats and carbohydrates, deamination of excess amino acids and the fate of end products. Demonstrate the action of the liver on hydrogen peroxide to show the presence of enzymes. **Independent work:** write a report on the fate of the constituents of a meal from ingestion to the end of digestion. **Group work:** in small groups, produce an annotated poster on coeliac disease.	
43–50	**B5** The structure and function of the nervous system	C and IS	**Tutor-led:** an overview of the different structures in the nervous system, nerve cells, CNS, peripheral nervous system, including the coordination of voluntary and involuntary activities and the function of the peripheral nervous system. Follow with a detailed explanation of the conduction of nerve impulses. **Independent work:** write an annotated report on the conduction of nerve impulses. **Pair work:** research and make an annotated poster to show the function of the sympathetic and parasympathetic nervous systems that covers at least three specific examples of their actions. **Individual work:** write a report on Parkinson's disease and multiple sclerosis that links the disorders	

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			to the different parts of the nervous system and highlights how the disorders also have an effect on other body systems.	
51–56	**B6** The structure and function of the endocrine system	C and IS	**Tutor-led:** an overview of the endocrine system, including a definition of endocrine, and the role of hormones in homeostasis **Group work:** in small groups, produce an annotated poster on A3 paper that shows the location of the hypothalamus, pituitary gland, thyroid gland, pancreas, adrenal glands, ovaries and testes. **Individual work:** make notes on type 1 and type 2 diabetes, hypothyroidism. **Tutor-led:** question-and-answer session focusing on type 1 and type 2 diabetes, emphasising the differences between the two. Learners should update their notes where they see inaccuracies or omissions.	
57–63	**B7** The structure and function of the lymphatic and immune systems	C and IS	**Tutor-led:** an explanation of the function of the immune system. **Individual work:** make notes on the immune response via T and B cells. **Tutor-led:** question and answer on the immune response, followed by an overview of the lymphatic system. **Individual work:** produce an annotated diagram that shows the lymphatic system (i.e. lymph returns fluids back to the blood system, lymphatic vessels,	

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			lymphatic organs, the formation and maturation of lymphocytes, spleen, filtration of the blood and recycling of parts of red blood cells). **Pair work:** research and present information on either leukaemia or rheumatoid arthritis showing how they are disorders of the immune and lymphatic systems (split the group into two so both disorders are covered).	
64–69	**B8** The structure and function of the renal system	C and IS	**Tutor led:** an overview of the renal system to cover both the gross structure and the functions. **Tutor demonstration/individual work:** depending on availability and suitability of the class, this can be either a demonstration or individual practical. Dissect a kidney to show the cortex, medulla, ureter and collecting ducts. **Individual work:** produce a set of annotated diagrams showing the gross structure of the kidney as observed in the dissection, the nephron and how it relates to the gross structure, and how the kidney fulfils its functions of filtering toxins, regulating water, salt balance and pH. Include notes on chronic kidney disease. **Tutor-led:** question and answer to elicit knowledge on how the renal system interacts with other body systems and the effect chronic kidney disease has on those interactions.	Kidneys and dissecting equipment, or model kidneys

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70–76	**C2** Factors that affect body systems	C and IS	**Tutor-led:** class discussion using examples from all the body systems: 'What factors make disorders and what are the chances of them getting better or worse?' **Individual work:** research and make notes on how the following affect the disorders identified for each body system: ● genetics ● age ● diet ● health ● smoking ● alcohol consumption. **Tutor-led:** discussion of each factor after learners have made notes on each one, emphasising the effects on the disorders and therefore the different body systems.	
77–78	**Introduction to the Pearson Set Assignment**	C	**Tutor-led:** an overview of how a PSA could be approached, how the marking grid works and what the learner has to do to meet the criteria of the grid. **Individual work:** make notes on the PSA on the research that needs to be done. Produce a plan to show how they can complete the work in the 15 hours allowed.	https://qualifications.pearson.com/content/dam/pdf/btec-international-level-3/health-and-social-care/2022/

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				specification-and-sample-assessments/unit-2-anatomy-and-physiology-psa.pdf
79–103	**Pearson Set Assignment**	C	**Research and complete the sample PSA for this unit including improvements in light of tutor feedback.** This can be used in its entirety or split into the two activities and feedback given after each one. **Tutor-led activity:** identify issues that have been seen across everyone's work that might affect each learner's outcomes. Discuss the effectiveness of the planning and how it can be improved. **Individual activity:** produce an action plan to improve the research and planning learners did in the SAM. **Tutor-led activity:** individual reviews with learners to discuss how they performed in the SAM and how effective their improvements may be.	https://qualifications.pearson.com/content/dam/pdf/btec-international-level-3/health-and-social-care/2022/specification-and-sample-assessments/unit-2-anatomy-and-physiology-psa.pdf
104–112	**Pearson Set Assignment Activity 1**	PSA	**PSA activity 1** 2 hours on each section of the task *8 hours total*	PSA
113–	**Pearson Set**	PSA	**PSA activity 2**	PSA

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120	**Assignment Activity 2**		3 hours on the evaluation and explanatory tasks 2 × 2 hours on lifestyle factors *7 hours total*	

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